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EDITED BY WILLIAM HUNTING, F.R.C.V.S

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ROYAL VETERINARY COLLEGE.

This institution opened for the winter session on Wednesday last. Dr. Bloxam took the chair and was supported by the Dean, Dr. Crookshank and Professor Simonds. In connection with the last gentleman we may note that it is just half a century since he joined the teaching staff at Camden Town, and that he had then had his diploma fifteen years. It would be flattery to say that he looked as young as ever but it is the bare truth to say that there are scores of men in the profession who look older than the evergreen professor and who were students under him.

The opening address was delivered by Professor Brown, C.B., in his own inimitable style. Both in delivery and in substance it was admirable, and we much regret that we trusted to the daily press for a report of his words. Not even scant justice is done to an eloquent and thoughtful performance.

The Chairman, in proposing a vote of thanks to the Principal, took occasion to say that the Governors were moved in all their actions by only one motive—the welfare of the students—and that they desired in all changes and advances to act in harmony with the Royal College of Veterinary Surgeons. Both the chairman and the lecturer claimed for the institution that every requirement that money and skill could suggest was now available for the work of manufacturing first class practitioners. It lies with the students to bring the necessary intelligence and application to obtain the full benefit of their surroundings.

ANATOMICAL KNOWLEDGE.

That you cannot make good surgeons out of bad anatomists is certain, and that students will not work up to a higher standard than their pass examination is equally certain. Perhaps the last dictum may need the qualification that we are referring not to the small percentage of first-class men but to the general average. It lies then with the Examiners and examinations of the Royal College of Veterinary Surgeons as to how much anatomical knowledge students must obtain as a basis upon which to rest their surgical attainments. Probably our examiners are altogether sufficient, but our examinations are by no means satisfactory. It is quite possible for students possessed of good memories and assisted by lectures, illustrated books, diagrams and models, to pass the existing examination with little more than a book-knowledge of anatomy. It is one of the subjects which requires a practical examination, and now that we have adopted a *written* test we should make the *oral* a practical examination. Of course this addition would mean more time and more expense, but these difficulties can be surmounted, and it is the duty of the Council to undertake seriously the improvement of this branch of its examination. The four years course of teaching has commenced, and the more practical methods of examination are provided for when the year 1895 is reached—but why wait? The sooner we adapt ourselves to what is coming the easier it will be for all concerned when the larger arrangements obtain. Practical anatomy is a *sine qua non* for sound surgical practitioners, and neither students nor teachers will object to improved methods of testing necessary knowledge. From all directions, from teachers and practitioners we constantly hear complaints that anatomy is not as well mastered as it should be—not even as thoroughly as it was twenty years ago. The reason is that it has been crowded out by the multiplicity of other subjects which are taught, and that the superior illustrations and diagrams which now illumine text books enable men to neglect dissection and rely on their memory. This method of acquiring anatomical knowledge is too evanescent, and we must have a practical test to ensure thoroughness. At the Conference which took place some time since between the Council of the R.C.V.S., and the Governors of the R.V.C., this subject was referred to, and the suggestion for a practical examination in anatomy came from the Governors. The next move is with the Council.

UNPROFESSIONAL ADVERTISING.

Not a week passes but we receive some miserable examples of most unprofessional advertising. We have pilloried a number, but it is very questionable whether such a line is the best to take. Men who circulate illustrated (save the mark) hand bills recommending their medicinal preparations and professional skill are not deterred by such exposure as we can give. In future we suggest that these productions should be sent to the Secretary of the Royal College of Veterinary Surgeons, who will lay them before the Registration Committee of the Council.

A clause in the 1881 Act gives very considerable powers to the Council for dealing with "conduct disgraceful in a professional respect," and even allowing that some advertisements may be permitted there are others distinctly "disgraceful"—quite inexcusable. The Registration Committee is the proper body to deal with these, and we have no doubt would take action if for mally requested. In future we shall forward to the Committee all such documents that may be sent us, but we suggest that the best course would be for practitioners to forward them direct.

CASES AND ARTICLES.

CASTRATION STANDING v. CASTRATION UNDER CHLOROFORM.

By J. Woodroffe Hill, F.R.C.V.S.

I have not the pleasure of knowing Mr. T. M. McConnell whose communication under the above heading appeared in *The Record* of the 30th but I can endorse every word he has written. I regard the standing operation in the light of an unscientific advertisement linked with all the disadvantages Mr. McConnell names.

Concerning the advantages of chloroform in castration I am absolutely at one with him. In my early practice when my late partner objected to personally perform the operation and employed a general castrator, more than one broken back ensued before and after the operation, from the violent struggles of the subject when roped. After one such case in a valuable thorough-bred—whose trainer sent his own operator, and the sporting papers credited our firm (though neither of us were present at the time) with the disaster, I commenced, now over twenty years ago, to use chloroform, and no equine subject under our professional supervision, from that time forth, whether operated on by the trainer's man or myself, was emasculated without first being put under the influence of chloroform, and this without a single untoward result. I have always maintained that the castration of animals is essentially a veterinary surgeon's duty. I shall never forget when the operation in the standing position was introduced into my district by Mr. Matthews, an American, whose smartness a local castrator attempted to emulate, a sequel to two cases the latter had and his treatment. In both animals hæmorrhage occurred, and with a view of arresting it, the operator stitched up the scrotum. It is needless to add that the hæmorrhage continued and both colts bled to death, to the surprise of the castrator who thought he had done a clever thing.

A good deal has been said and written anent the danger of chloroform, and in my college days its almost inevitable fatality was dwelt upon by one of the professors. Well! here is my testimony for what value your readers choose to place on it. In 25 years practice I have never seen a fatal result in the equine subject and only three in the canine, the anæsthetic in neither of the latter being administered by myself. Chloroform is "funked" simply because its fatality has been exaggerated by those who evidently don't understand its proper method of administration; and young practitioners just starting in life, are too chary of their reputation to run even an imaginary risk.

I may add for a great many years I have used chloroform successfully in the compulsory destruction of animals and without the lingering results named by Mr. Hoare.

By J. Brown, M.R.C.V.S., Invergordon, N.B.

With your permission I would like to write a few lines in reply to Mr. McConnell's communication on the above heading in last week's issue. I can see that Mr. McConnell has not had much experience in castrating colts standing or he would write in a different strain.

The only benefits he admits for the standing system are saving of time and hands. "In country districts" he says "the most of colts are castrated in the morning before men go to the fields, mid-day, or evening." I wonder when a practitioner would get through 150 colts if he only operated at these times. He goes on to say there is less risk both for colt and operator when the colt is cast. From experience I know such is not the case. How many colts do we not hear of being permanently injured through being cast. There is no risk of any injury when the colt is done standing. As to the operator I never yet have got as much as a scratch, but many a time have had a finger squeezed and a stroke on the face from a fore foot when assisting to tie a colt.

Mr. McConnell says a hernia may exist without the operator being aware. Is it easier to diagnose a hernia when the colt is down? I don't think so; and if it is not possible to feel it when standing there is no fear of the bowel coming down. Another risk he mentions is that the colt might throw itself down when the instrument is on the cord. This may happen once in fifty times, and is very often due to the twitch being too tight. Although he did throw himself down I never saw any danger as he cannot put his foot on the instrument, nor will it penetrate the abdomen.

As to the advantage of putting an animal under chloroform for castration, I see none. It seems ridiculous. I consider myself as humane as any other practitioner but would never think of going to much trouble. If the operation is smartly performed, and both cords severed at once, the pain does not last three minutes. The colt resumes feeding as soon as he is put back to his box. Such is not the case, however, after they have been cast, as I have seen colts take 12 hours to dry from the perspiration, and did not feed for 24 after the operation. After having been chloroformed they would be still worse, as horses I have seen chloroformed took a couple of days to get over it. I will own we may meet with colts that it is impossible to do standing. In five years I have come across three, and even these could have been done had they been properly haltered a few days before the operation.

The greatest benefit to be derived from the standing system is, that one never requires to have the colt starved twelve hours before he can be cast. You have to arrange with your clients a couple of days before, and perhaps the very day you have fixed you are called away to a more urgent case, and so you keep the colt standing without food and the owner blaming you for neglect or carelessness. By doing

them standing all this trouble can be saved, you can go when it suits yourself and bring the colt from the field, and with a man and a boy the operation will be over in five minutes. Parties who have once had their colts castrated standing will, I know, never again have them cast.

VETERINARY CHEMIST.

We have heard a good deal about the chemist poaching on the veterinary surgeon's practice, and it has been decided on appeal that he may use the above title, altho' no one may annex his, but what of the sale of poisons? Suppose a veterinary surgeon choose, as some do, to keep an open surgery and retail the usual goods supplied by chemists and druggists. Is he bound to to decline the sale of a dram of laudanum or paregoric or other scheduled poison? A surgeon (M.R.C.S.) may keep an open shop and sell as a chemist, but an M.D. is not included. Is his qualification so inferior to that of chemist and druggist that he may not be trusted to sell a pennyworth of poison? and if so is a veterinary surgeon thus disqualified from selling? There is a clause in the pharmacy act exempting veterinary surgeons who who supply medicines which they may have prescribed containing scheduled poisons, but is there anything in the pharmacy act (which works so leniently towards chemists as to allow them to prescribe or extract teeth, or call themselves "veterinary"), to prevent a duly qualified veterinary surgeon from selling sheep-dipping for instance, containing arsenic in large proportion? It should be clearly understood what is meant by the word *sell*, because as a matter of custom we do *sell* all sorts of things. Even the most punctilious sticklers for etiquette have labels announcing the many disorders curable by Mr.——'s colic mixture, but if we choose to eke out a country practice by keeping a drug store are we debarred from selling a cough mixture with syrup of poppies —as unqualified, and unfit to be trusted with such things? Or if a client overrun with rats should ask our advice must we send him to the chemist, who may "nobble" him for cleansing drinks and other things, so that we are only called upon for night calving jobs, etc. It is well that we should know our position, and that our duties and privileges (if any) were defined; perhaps you, sir, can tell us!

PHARMACEUTICAL VETERINARY.

Charge against a Veterinary Surgeon.

Arthur John Blake, veterinary surgeon, of Bournemouth, was charged at the police court at Poole yesterday, at the instance of the Royal Society for the Prevention of Cruelty to animals, for committing perjury in a case heard last March.—Mr. Colam prosecuted for the society.—The evidence showed that the defendant swore that a certain horse which Mr. Batten, a member of the Kinson Local Board, had been summoned for working in an unfit state had no wound on the knee.—Several witnesses now swore positively there was.—The defendant was committed for trial.—*Morning Advertiser.*

VETERINARY SOCIETIES.

NATIONAL VETERINARY ASSOCIATION.

ANÆSTHETICS IN VETERINARY SURGERY.

By E. WALLIS HOARE, F.R.C.V.S., Cork.

(Read before the meeting at Manchester, July 27th.)

(*Continued from page* 194.)

ETHER.

In considering the actions and uses of the other general anæsthetic, Ether, we find that it also has its advantages and disadvantages. Ether is much slower in its action and causes far greater preliminary excitement. The pulse is quickened and increased in force, and in the second stage the heart and vessels are less depressed, the respiratory centre also less depressed, the stage of anæsthesia shorter and less profound in degree, and according to Dr. Wood, there is rarely, if ever, anæsthesia before the period of complete unconsciousness. The same authority also states that even in a prolonged ether anæsthesia there is no material diminution of the blood pressure in the circulation until manifest failure of respiration has taken place. We have thus to come to the conclusion that, at any rate as regards dogs, ether is a safer agent to employ, even though from its primary effects it may cause more trouble to administer.

Its contra-indications may be summed up as follows:

1st.—In operations about the mouth it produces a large secretion of mucus, which may either interfere with the operator, or by some misadventure find its way to the trachea.

2nd.—In operations which must be quickly undertaken and completed the delay in the administration of ether must be taken into account, as also in cases where profound anæsthesia is not necessary, we have the first stage of chloroform anæsthesia, which does not occur to the same extent in ether.

The action of ether in the horse is very slow, and many cases require a large amount before anæsthesia can be produced.

I have notes of one experiment on an aged gelding. In this instance ten ounces were inhaled before sensation was lost, taking an interval of fourteen minutes before being fit for any operation. Neurotomy was performed in one fore leg, and in five minutes after the operation the animal was on his feet. The ether in this case was administered by means of Carlisle's inhaler, in amounts of two ounces each time. I am of opinion that in its administration a large amount should be given at one time, as otherwise a long time is taken up in waiting for the anæsthetic effect.

Ether causes great acceleration of the respirations, but very little alteration in the character of the pulse in proportion to the former. Its exciting effect is well seen in dogs, but not to the same extent in horses; and another important point to be noticed is the rapid manner in which the stage of anæsthesia passes off as compared with chloroform.

Taking all our present knowledge into account, we must say that of the two agents, chloroform is to be preferred for the production of anæsthesia in the horse.

We are convinced, however, from experience that ether is to be used in preference in canine surgery, especially in cases where from any inherent weakness we may fear danger from the other agent.

We have next to consider the mode of administration of chloroform to the horse for surgical purposes. Up to

the present, for various reasons, the best apparatus in use is Carlisle's inhaler.

It is easily adjusted to the horse's head; a small amount of the drug suffices, as little air is admitted, and there is no waste of the agent used; the latter is also easily replenished if required. We know from experience that if air be allowed to mix with the chloroform, the animal takes a long time to go under its influence, and also that a large amount of preliminary struggling takes place.

It is well to keep the horse from bulky food and from water for some hours prior to administration. The animal should then be carefully cast in as well ventilated a place as possible.

I regard it as a dangerous practice to administer the drug standing, as there is great risk incurred by reason of the chances of the animal falling in a helpless manner.

For an adult horse one ounce is poured on the sponge. For younger horses this amount may be reduced in proportion, but, as before remarked, it is a mistake to commence with too small an amount.

Here it may be remarked that with reference to all the points to be considered in the process of administration, no hard and fast rule can be laid down, as a great deal depends on individual peculiarities and susceptibilities. Some horses take a much larger amount than others before a proper stage of anæsthesia is produced, but we are safe in taking the average at one ounce.

The recognition of the proper stage of anæsthesia, and the period of time required for this, are matters of great importance. The period of time varies from ten minutes of inhalation to fifteen in some cases, though I have on record cases where five minutes of inhalation sufficed before operating.

The recognition of the proper stages certainly cannot be determined by watching the eye. As I have shown before, this organ may appear sensible to touch when anæsthesia is complete enough for any operation. If the animal does not struggle when the limbs are moved, or when pricked with a pin, we may conclude that he is fit for operation. We must, however, be aware of the fact that such a thing as involuntary movements of the limbs occur, even when the animal is under deep anæsthesia; and we frequently notice this during operations, especially castration.

Chloroform always causes acceleration of the respirations at first, but this acceleration is regular; it is when the respirations become irregular and shallow that the administration is pushed too far. Not that any fatal termination is to be feared, because, as we have before shown, alarming symptoms may present themselves, and still the animal will recover without any aid.

With reference to this point I may draw attention to an experiment which I lately performed, where a horse received six ounces, in amounts of two ounces each, at intervals making up a space of twenty-six minutes. Here the greatest distress in respiration was shown, the respiratory movements being shallow and irregular, and after a time the breathing was almost entirely oral; there were convulsive movements of both fore and hind limbs. In eight minutes after the inhaler was removed, and in six minutes after this the hobbles taken off. After an interval of twelve minutes the horse was up on his feet without assistance. The whole time occupied in this experiment was about fifty one minutes. But as we can only draw conclusions from such experiments, we are by no means to infer that, should any unfavourable symptoms by any chance arise, we should not take steps to counteract them.

Such measures should consist in cold effusions to the head, and, if necessary, artificial respiration should be resorted to. The importance also of an abundant supply of fresh air should not be lost sight of.

The last point which requires consideration is the period of time which the animal takes to recover from the effects of the anæsthetic, and when the hobbles can with safety be removed.

This period is by no means constant, but we may take the average at above twenty minutes. Some horses recover from the influence of the drug in a shorter period, but we must be very careful not to remove the hobbles too quickly, remembering the danger of the animal injuring itself in its attempts to rise, before the system has recovered itself.

When we come to consider the question of the administration of chloroform to the dog, a different state of affairs altogether is found to exist.

Our only chance in administering it with safety is to allow a large proportion of air, and to be careful to avoid undue haste, and also to allow the animal as much scope for breathing as possible. A plain handkerchief and sponge is safer than any form of muzzle for administration, and from one to two drachms of chloroform will be required according to the size of the dog. After the period of preliminary excitement, dogs usually go under very quickly, and the respirations must be very carefully watched. If the respirations become at all shallow, artificial respiration should be at once resorted to.

Having destroyed a large number of dogs with chloroform, I can confidently state that in every case the respirations ceased first, and the heart continued to beat for some time afterwards.

Cocaine.

Not having had much experience with this drug, I cannot bring forward its advantages or its disadvantages.

I have used it in a few cases in operations about the eye with success, but have found that a five per cent. solution has little effect in removing pain during the removal of tumours of a fibrous nature.

I used it once in the dog for the removal of a small fibrous tumour in the region of the thigh, using a ten per cent. solution subcutaneously, when before the operation was commenced violent convulsions commenced, with frothing from the mouth, champing of the jaws, and rapid death.

We may now consider the operations in which the use of anæsthetics can be employed with advantage in veterinary surgery.

As almost all the operations are attended with pain, we can safely say that there are few for which we can claim exemption.

In the castration of yearlings, with the exception of those which are well bred, the operation takes so short a time, and the structures to be divided are not fully developed, so that we may not consider it necessary to employ an anæsthetic; and this would be far more the case if we are able to perfect the method of operation by ligature of the spermatic artery, whereby a minimum of pain is inflicted.

But in the castration of adult horses it is clear that, both from a practical and humane point of view, the use of chloroform is indicated. Here we have the shock to the system superseded, the absence of sweating and struggling, the danger of hernia of the intestine through the abdominal ring reduced to a minimum, and every chance given to ensure against hæmorrhage, by whatever mode we perform the operation. In the castration of cryptorchids, no one can deny that the use of an anæsthetic is an integral part of the success of the operation, and that by the quietude induced, and the absence of shock, we are reducing the risk of that fatal result, viz., peritonitis.

In cases of difficult parturition, where from excessive labour-pains it is almost impossible to render manipulation of much service, the administration of chloroform

will be of the greatest benefit. Again, in cases of severe abdominal pain, such as that due to enteritis or volvulus, where we often find that the administration of opium or its alkaloid morphia fails to give relief. The inhalation of chloroform, although not saving the patient's life, will give the unfortunate sufferer temporary ease from pain, and in hopeless cases may be continued, rather than allow it to struggle incessantly until death closes the scene.

We may also draw attention to the use of chloroform in cases where muscular actions or spasm have to be overcome, such as reduction of hernia and dislocations.

In conclusion, I may state that I am conscious of many omissions of important matters in this paper, but I trust you will make up for these by an able discussion, remembering that these notes were written in moments snatched from the daily routine of a general practitioner's life.

Discussion.

Prof. Smith: I am very glad indeed to congratulate Mr. Hoare upon the practical nature of the paper which he has brought forward. He opens the paper by speaking of the various objections which have been raised against the use of chloroform, and he classifies them under certain heads. First of all, "the risk of the animal dying under the influence of the agent employed." I shall have, perhaps, a little later on, to say something about the action of chloroform on the horse, because I am not inclined to take quite such a sanguine view as to the harmlessness of this agent as the majority of the profession. In this, I know, I am distinctly in the minority, but I have had on several occasions a very anxious time indeed with patients under the influence of chloroform, and further, I have had very little difficulty in destroying them under this agent; I am therefore not inclined to think it quite so harmless as the author of the paper would perhaps have us believe. Another point which is touched on here—and, I think, a very important one—is that we should accustom clients to take the risk of their horses being placed under chloroform for surgical operations, and I think we might at once say that where any operation is distinctly painful chloroform should be employed. I say so for this reason, that we are most distinctly behind the times if we acknowledge, either to the outside world or to ourselves, that we have any right to inflict pain upon the lower animals during the time they are undergoing surgical interference without rendering them, for the time being, unconscious of that pain; and moreover, I think those who are inclined, perhaps, to neglect the administration of anæsthetics, forget that if we only educated the public to recognise that it is as absolutely essential for horses and other animals to be placed under chloroform as it would be for themselves, we should work into our hands certain operations which at the present time are performed by men who are outside the profession. There is a point in Mr. Hoare's paper which I do not think I agree with; he says that "no difficulty should be found in obtaining the assistance of a brother practitioner in the administration of chloroform," and he thinks that this brother practitioner should give his assistance without a fee. I do not agree with that. I know perfectly well in the medical profession that if occasion arises for a medical practitioner to have to employ chloroform, he invariably brings a brother practitioner with him, whose fee one has to pay, and I certainly think the same thing should hold good with ourselves. I see no reason indeed why a man should give his services under the special circumstances, because it is positively certain that in the event of the chloroform being unsatisfactory he will receive a due share of the blame, and it is therefore quite certain that he should receive also a share of the fee. The third objection which Mr. Hoare has classified, is an objection urged by some of the length of time involved in placing animals under chloroform, and I rather think he is inclined to under-estimate the time which is required for this particular purpose. Also, he has drawn no attention to a very admirable paper, a translation of which appeared in the *Veterinary Record* in September, 1890, summarising the observations made by Möller in the Berlin Veterinary School on some 126 horses which were chloroformed in that establishment for various operations. It was found there that with the 126 horses the average time occupied in placing the animal under chloroform was 19½ minutes; for animals under two years old the length of time was from 7 to 8 minutes; the shortest time in the adult horse was 8 to 9 or 10 minutes. Twelve horses, however, out of the 126 required 30 minutes, and four horses out of the 126 required between 30 and 40 minutes. There can be no doubt that the length of time that is required to produce anæsthesia in horses depends very largely indeed upon the methods employed of administering the anæsthetic. With the Carlisle chloroform muzzle no doubt the time is appreciably reduced by several minutes, but in my opinion there are other causes in operation, in producing anæsthesia in horses with chloroform by means of the Carlisle chloroform muzzle, besides the actual chloroform itself. The fifth objection Mr. Hoare says is one which, so far as he knows—and I believe he is correct—no evidence whatever has been brought forward to support, that is to say, it has been stated that the after effects have not been altogether favourable, and that the fact of animals having been chloroformed and then operated upon causes the wound to heal indifferently. I quite agree with the author that there is not a shadow of evidence to bear that out. Mr. Hoare then alludes to the result of the Chloroform Commission, which sat at Hyderabad for some considerable number of months investigating the action of this agent upon the dog; therefore, having selected the dog, an animal which we know from practical experience to be one which is extremely difficult, if not distinctly dangerous, to chloroform, the results of that Commission are especially interesting to us as members of the veterinary profession. Mr. Hoare says the result of the Commission was this; That it was conclusively proved that this drug did not cause death by syncope, such as was usually believed and taught, but that it destroyed life by paralysing the nerve centres in the medulla, which preside over respiration. Perhaps the critical enquiry conducted only recently at Cambridge into the results of this Hyderabad Commision has not been brought before Mr. Hoare's notice, but the whole of the work which was done in Hyderabad was carefully reviewed at Cambridge, and the only point I am anxious to bring forward is this; it undoubtedly has been shown that, although respiration distinctly fails early—and clinically is the most useful symptom we can pay attention to—yet respiration fails because the heart fails. Here I will give you, very briefly, the conclusions that have been arrived at by two very eminent physiologists, who have carefully gone into these Hyderabad chloroform experiments. They say "the danger of chloroform administration consists, firstly, in causing a serious fall of blood pressure, owing to the weakening of the heart from too great a percentage of chloroform in the air, which, combined with the action of the chloroform on the respiratory centre, in itself causes failure of respiration." Secondly, respiration ceases after long administration of chloroform, in spite of giving plenty of air, owing to keeping on too long with the agent, after complete anæsthesia has been produced. I think that is a most important observation, because we have too often been accustomed, in my experience, to trust to individuals who are not trained in the administration of chloroform, and they are very likely indeed, while our

attention is directed to the operation, to think that perhaps the patient is returning to consciousness, and keep on adding the agent, and gradually paralyse the respiratory centres. This is a very important point; having got our animal under the influence of chloroform, we should withdraw it and impress upon those who have to administer the agent that they must endeavour to use their discretion in the matter. The chloroform must be withdrawn for the reason that no matter how much air be given, after a certain time the effect of keeping on with this agent is to paralyse the respiration. The rapidity of the fall of blood pressure is due to the concentration of chloroform, and so if plenty of air be given the fall of blood pressure is very small indeed. Holding of the breath, struggling, and stoppage of the heart's action in chloroform administration are symptoms which indicate too great a concentration of the vapour; later on low blood pressure is a danger, as indicating too weak an action of the heart. These facts are the outcome of very numerous experiments which have been quite recently conducted, and which have placed beyond doubt that, in the first instance, the fall in blood pressure is due to the weakening of the heart and eventually the paralysing of the respiratory centres. Mr. Hoare draws attention to a fact which, if it can be borne out by the experience of others, is really very important. I will read the paragraph:—I have often noticed the pupils to remain dilated during the whole period of anæsthesia, and also that the cornea was sensible to reflex action when to all appearances there was no sensation over the body." He tells us that we are not to trust to the reflex action of the cornea as indicating that the animal is not under chloroform. Hitherto we have trusted to it. Certainly, if I were to chloroform an animal, and he showed any reflex on touching the cornea, I should not consider he was insensible to pain. If Mr. Hoare's observations on this point are correct they are very important indeed, because some of the difficulties in which we have been involved in the administration of chloroform may be due to the fact that we have been pressing this agent on the animal at a time when he had already arrived at a thoroughly anæsthetic state, and we were led into error by obtaining this reflex of the cornea. Möller, in those observations that I spoke of just now, states very precisely indeed that the reflex we should endeavour to obtain is not by touching the cornea, but by touching the inner *canthus* of the eye on the *conjunctiva*, and he looks upon that as much more reliable, and so long as any reflex—such as closing the eye, and so on—exists, he does not consider the animal is under the influence of the anæsthetic. It may be that the conjunctiva is the better place of the two, and the value of such observations lies in this—that pressing the anæsthetic beyond a particular point will do harm, and it may certainly account for many of the difficulties in which we have been involved. Mr. Hoare gives an account of two experiments made on horses to destroy life by means of chloroform. So far as I can see, in the first animal Mr. Hoare destroyed he does not say either the amount of the agent used nor the length of time it took to produce death. He simply says: "It was found impossible to destroy this animal within a reasonable time and with large amounts of the drug" That is much too indefinite. In the next experiment he is much more precise. He tells us the amount of the drug used was 12 ounces and death occurred in the course of 30 minutes. In the first experiment, and also in the second, he administered the drug by means of Carlisle's chloroform muzzle. I think that this would be a very suitable opportunity for me to say one or two words about the use of the chloroform muzzle; in my opinion I consider it most unsatisfactory. In this I know I hold an opinion which is distinctly in the minority. This muzzle has been largely employed by men of very extensive experience, has been found most useful, and it has been urged that with it a horse can be placed under chloroform in a very few minutes, that all air should be excluded, and altogether our original notions as to the care which should be taken in the administration of chloroform have been absolutely and entirely upset. I think we run a very grave risk in the use of this muzzle, and if it were not that the horse's heart is one which is certainly not anything like as liable to disease as our own, and moreover that the nervous influences which control it are not quite so readily upset as in the human, we should have been plunged into serious difficulty by cutting off the proper access of air. I firmly believe—and it would take a very strong argument to change my opinion—that the proper percentage of air should be introduced with the chloroform, and that the closing up absolutely of the muzzle, and allowing the animal to breathe practically the pure vapour of chloroform is distinctly dangerous. You may ask for instances where it has absolutely produced death; I cannot give any, but that is due largely to the fact that the horse is certainly exceptional so far as his heart is concerned, there is very rarely anything seriously wrong there, and moreover there appears to be very great difficulty indeed in upsetting the nervous mechanism which presides over the heart. I think it is chiefly due to that, that we have not had deaths. I will go a step further, and will say without fear of contradiction—certainly as a result of my conviction—that when we produce anæsthesia in the horse in a very few minutes by the use of Carlisle's chloroform muzzle, that we are not only producing chloroform anæsthesia, but also carbonic acid anæsthesia, we are practically suffocating the animal. If you obtain the needful license, and strap on Carlisle's chloroform muzzle to the horse's head, and shut off the whole access of air as completely as that muzzle will admit, you do not need chloroform to produce death: your horse will succumb about as rapidly as it is possible to suffocate a horse. I am convinced that, where we have this anæsthesia produced in such a short time as has been placed on record by observers, that it is not only chloroform anæsthesia but also carbonic acid anæsthesia. I certainly believe it is essential that we should admit a certain portion of air, and if I use Carlisle's muzzle—and in many ways it is distinctly convenient—I always leave the tray and the top open, and cut off the piece of leather which keeps the tray in its place; by this I have done everything to prevent the possibility of a due proportion of air being shut off from the patient. When a horse has been some little time under chloroform, and especially when it has been pressed owing to the presence of the reflex in the cornea, it is not unlikely to find that certain very alarming symptoms appear. The most alarming symptom to my mind, and one of the earliest, is the stoppage of respiration. Quite suddenly the horse ceases breathing, and to all intents and purposes he is dead; after watching him for a certain length of time the whole process of respiration will start once more, to cease again. I confess to my mind it is most alarming, and so constantly does it happen in my experience, that I never feel perfectly happy when I have a horse under chloroform, and especially do I feel anxious if the above symptoms appear. Möller mentions this stoppage of respiration, and doubtless it is within the experience of all in this room who have had to administer chloroform to the horse, that at a variable period from the time of starting this symptom frequently presents itself. There is no doubt we can, by striking a horse on the abdomen or side, or flicking him with the towel, get the respiration to start again, but I candidly confess that I never get over my feeling of extreme anxiety, so long as this state of affairs lasts, as there can be no doubt that we have got chloroform in that animal's system to the extent of poisoning him; he is very close to death's door, and if

he were a man he would have gone off long ago. Mr. Hoare draws attention to a point on which the Chloroform Commission laid great stress, that is, the amount of struggling in dogs, and the rapidity with which dogs can be killed. One reason may be that in holding them down we press the chest considerably, or interfere with respiration so as to kill them partly by suffocation. Mr. Hoare draws attention to it, and it is no doubt a very important point that when this struggling does occur, not to hold the animal down in such a way that respiration is interfered with. The author considers that the amount of primary excitement in horses is very small, and Möller agrees in this respect, but in the dog the excitement is very marked indeed. I do not think that agrees with my experience. I think, in the majority of cases I have seen, the primary excitement in the horse is very remarkable—neighing and so on is extremely common—and even very violent excitement for a few seconds; but, equally, there is no doubt that the amount of primary excitement in the horse depends on the method of administration. If, for instance, we take a drachm of chloroform and inject it into the jugular, we get primary excitement of a very intense kind: if we inject it into the trachea the horse is almost instantaneously insensible, but prior to the insensibility coming on he is most violent; there is intense reaction, not indicative of any pain whatever, but simply to stimulation of the higher cerebral centres. Mr. Hoare, speaking about the dangers of chloroforming the dog, misses a point. It is this, that it was Claude Bernard, the physiologist, who, finding he lost so many dogs while operating on them under chloroform, set to work to discover some method by which this could be neutralised. He found if he gave his dogs a hypodermic injection of morphia before chloroforming he could chloroform them with impunity. Mr. Hoare makes no mention of this although it is a perfectly well recognised fact, and it is occasionally used in the human. On the horse, however, this prior administration of morphia does not appear to be of any very great value; it does not reduce the time the animals are being placed in anæsthesia nor the amount of the agent to be used. He found they took two ounces and half a drachm of chloroform. On the dog I go entirely with previous observers. It is distinctly advantageous to give a hypodermic injection of morphia before you chloroform. Mr. Hoare next shows us in a very clear manner the points which should be attended to in chloroform administration. First of all the amount of the drug to be administered, the recognition of the proper state of anæsthesia, the symptoms of approaching danger, and the interval which elapses before perfect consciousness returns; points of extreme practical importance, and which he has dealt with in a most satisfactory manner. He regards the administration of the drug in a standing position—that is, the horse in a standing position—as dangerous, an observation with which we shall probably all agree. He also mentions about the sponge being damped before the chloroform is put on, which probably many of us have already learned to do. Then he mentions the amount used, which is placed at an ounce to start with. The time which, in Mr. Hoare's experience, has been required to produce anæsthesia, is from ten to fifteen minutes. I think I gave you a few minutes ago the time that Möller mentioned as being about nineteen and a half minutes, which very closely agrees with Mr. Hoare's observations. Then Mr. Hoare records two experiences, one of a three-year-old horse fired on both hocks, where the whole time occupied is twenty minutes, which is a very creditable record. The author next goes on to consider the question of local anæsthetics, and he has been very dissatisfied with the use of cocaine. My experience of cocaine is distinctly limited. I can only say when I have given sufficient I certainly have produced the most absolute anæsthesia on several occasions, and I have no doubt, had I injected it where deeper incisions were required, it would have been equally satisfactory. I may mention that I quite recently trephined a horse by simply injecting a little cocaine in the two places where I desired to open the skull, and there was not the slightest indication of any feeling. It was distinctly a pleasure to go on with one's work, the horse was always in an upright position, and you knew that it was absolutely unconscious of all that was going on; the animal was placed in a most favourable position, especially for washing out and for other purposes; only a few minutes elapsed before I got my flaps back and the piece of bone out, and I was distinctly delighted with the effects of the cocaine. This may be a very exceptional experience, but I trephined a little later on and had equally good results. Perhaps Mr. Hoare's solution is not strong enough. On this point there are many who may enlighten us as to what the exact strength should be for hypodermic purposes. For neurotomy I believe we may produce, from what I learned quite recently from experiments at Cambridge, the most complete anæsthesia instantaneously after exposing the nerve by touching it with aconitia. I am informed that even a weak solution of aconite placed on the exposed nerve produces immediate loss of sensation. If so, the pain of incision through the skin might be overcome by using cocaine, then touching the nerve with this alkaloid, you render the entire operation absolutely painless. I certainly think we have no right to perform neurotomy unless we render the animal insensible to pain. Mr. Hoare completes his very practical and useful paper by indicating other uses of anæsthetics. I do not quite follow him how the reduction or the absence of shock can reduce the risk of peritonitis, but perhaps he will be able to explain that. In speaking of parturition I think it has escaped his notice that a very useful paper has been published in *The Veterinary Record* on that question by Mr. M'Connell, of Wigtown, in August, 1890. He states that he has for years used chloroform in parturition cases, and he also narrates the very great help it has been to him. I think these are the only points that occur to me in connection with this paper, and I trust you will permit me again to express the very great pleasure it has been to me to open the discussion on this exceedingly useful communication.

(To be continued)

EXTRACTS AND NOTES.

GLANDERS IN LONDON.

There is official authority for the assertions, which, indeed, nobody familiar with the circumstances will dispute—(1) that practically glanders is epidemic in the metropolitan district alone, and that if stamped out there it could speedily be eradicated from the whole country; (2) that even in the metropolitan district it chiefly prevails in very few studs, and is therefore the more easily manageable; and (3) that in those studs it might be effectually extinguished by the adoption of the policy of the slaughter of every diseased or infected animal. It may be added that within the knowledge of the veterinary profession the returns as to the number of horses attacked by the disease are far from indicating the real extent to which it exists in the studs of the large omnibus and carrying companies, and that there are scores—probably hundreds—of glandered horses working in the

streets of London to-day, carrying about with them the possibilities of infection, in regard to every one of which the means of certain diagnosis of the disease are within the reach of their owners. In these circumstances the question may naturally be asked why vigorous and effective measures for the suppression of the disease are not forthwith adopted, either by the owners themselves or through the exercise of the powers possessed by the Board of Agriculture and the London County Council.

The answer to this question is supplied by a survey of the recent policy of the authorities in regard to glanders. For more than 20 years past the old notions that glanders was not a contagious disease and that it was of spontaneous origin have been pretty effectually exploded; and the fact that it is due to the presence of a specific bacillus has been definitely established since the researches of Löffler and Schütz in 1882. Under the Animals Order of 1886 glanders and farcy were treated as separate diseases; but it has long been known to veterinarians that they are both due to the same virus and are practically the same disease, and there had come to be a consensus of opinion that unless farcy were dealt with in the same way as glanders it would be impossible to get rid of either. Last year, therefore, the provisions of the Order of 1886, so far as they related to glanders and farcy, were revoked, and a new Order issued, by which local authorities are empowered to slaughter horses, mules, or asses affected with or suspected of the disease, and to pay compensation to the extent of half the value of the animal before it became diseased provided that the compensation should in no case exceed £20. It is to be observed that this Order, so far at any rate as the provision for compensation is concerned, is not compulsory upon local authorities, but only permissive. The state of the case at present is simply this—the Board of Agriculture, for its part, declines to accept the responsibility of imposing on the national Exchequer the charge which would be incurred for compensation in the event of the adoption of a stamping-out policy, and proposes to leave it to the local authorities to put the burden on the shoulders of the ratepayers; and the local authorities in their turn, or at all events the London County Council, to whose area the disease is almost exclusively confined, refuse to adopt that course. The owners of infected studs are naturally unwilling, as long as there remains the least chance of compensation being obtained from either national or local funds, to proceed, before such compensation is obtainable, to the costly method of eradicating the disease by the slaughter of every animal affected or suspected. And the practical result is that the state of affairs under the new Order is worse than it was under the old one, because, while ascertained cases are still liable to compulsory slaughter, their destruction does nothing for the eradication of the disease, and owners regard it as being to their interest to ignore cases of mere suspicion as long as the question of compensation remains unsettled.

The attitude of the Board of Agriculture, and still more emphatically of the County Council, in regard to this point is that the granting of compensation would put upon the taxpayer in the one case, or upon the ratepayer in the other, a burden which they ought not to be called upon to bear. The extinction of glanders, it is contended, is not a matter of direct public concern like the suppression of pleuro-pneumonia among cattle; for an epidemic of pleuro-pneumonia would be a national calamity, since it would raise the price of meat to the consumer, whereas the prevalence of glanders only means loss to the owners of the affected animals, or a reduction of dividend to the shareholders in the great omnibus and carrying companies to whose studs the disease is practically confined. This argument is no doubt to a certain extent well founded. Still there is another aspect of the matter which cannot be overlook—the danger of infection to the human subject. Cases occur every year in which grooms, horse-keepers, and others who come into direct contact with glandered horses become the victims of this horrible and loathsome disease. An animal may suffer from glanders for months in an actively infective form without any external symptoms to give rise to suspicion; and the mere slaughter of declared cases, and even the disinfection of the premises, are absolutely futile to remove the disease from any stud in which it exists, unless every animal in which it is latent is also destroyed.

If, however, the disease be latent, how, it may be asked, can it be detected? Until very recently it was the fact that the existence of glanders in a horse might escape the observation of the most skilled veterinarian; and this circumstance offered an effectual obstacle to the adoption of any stamping-out plan, because that would have entailed the heroic remedy of the slaughter of the entire stud in every infected stable. But the situation has been altogether changed by the discovery of a diagnostic agent which repeated experiments by bacteriologists in France, Germany, and England have proved to be well nigh infallible. This agent is mallein, which is the sterilized and filtered culture of the glanders bacillus. The fact that Koch's tuberculin, however doubtful its value as a therapeutic, has been found to be of the greatest service for purposes of diagnosis, when injected into tuberculous patients, suggested to a Russian veterinary surgeon named Kalning the idea that a similar culture of the glanders bacillus might prove of equal utility in determining the presence of glanders in the equine subject. This idea has been completely verified in the result.

It is scarcely going too far to say that by means of this new instrument of diagnosis it is within the power of any and every horse-owner in London to ascertain precisely how many of his stud are affected with glanders, and that by the slaughter of every infected animal—followed of course, by a thorough disinfection of the stables—this fatal disease might be completely eradicated in the metropolitan district and wherever else it exists throughout the kingdom. The question whether this thorough policy shall be adopted rests, for the present, with the owners of horse-flesh, the Board of Agriculture, and the County Council. The horse-owners naturally shrink from a course which might involve the destruction of a considerable percentage of their studs, although their present policy of playing with the disease is probably, in the long run, the worst, even from the economic point of view, since it involves the annual loss of

many valuable animals. Were the County Council to exercise the power of granting compensation given them by the order of the Board of Agriculture, there would be an immediate charge on the rates of perhaps £50,000—possibly a good deal more—which would be a direct advantage in the first instance to the proprietors of large studs and the shareholders in the omnibus and carrying companies. But, on the other hand, a danger to the well-being of the whole horse-population of the metropolitan area, which is now very serious, would be reduced to a *minimum:* London would cease to be a centre and and nursery of infection for the whole kingdom, as it undoubtedly is at present, and the risk of dissemination of the disease among human subjects would practically disappear. London ratepayers, however, have some right to object to the attainment of these results, desirable though they may be, exclusively at their expense; and it may be worth while for the President of the Board of Agriculture to consider whether the work of compulsory slaughter and compensation should not be taken in hand by his department, and accepted as a national responsibility. The cost of it would, at the worst, amount to only a very trifling and temporary charge on the public exchequer, and the accruing advantages would be real and substantial. This at least is certain, that the means for the virtual extinction of glanders in London and throughout the country are now attainable. The point which is yet to be determined is at whose cost these means are to be applied.—*Times*

THE JEWISH METHOD OF SLAUGHTER.

From the *Irish Farmers Gazette* we take the following letter which refers to the article from *The Times* we published in a recent number.

In your issue of the 16th inst. I observe an article on "The Jewish Method of Slaughtering Cattle." This article contains a few statements of a somewhat misleading character, and neglects to give one or two important facts, which, with your permission, I will notice.

I am, of course, quite aware that the article is not your own, but that it is copied from the *Times* and in the first place I may say that the experience of the writer of the article as to the method of slaughtering differs from my own, as in the Edinburgh slaughter-house the animal is first cast—a performance which in itself involves the infliction of a certain amount of cruelty, not only in the binding process, but in the casting, as the body is thrown violently to the ground, after which a piece of rope is passed round the lower jaw and through this an iron rod is passed and the rope twisted tightly to prevent displacement; the head is then twisted violently backward so as to bring the horns or the forehead in contact with the pavement, and the spiked or forked end of the rod is fixed against the floor of the slaughter-booth. By these means the neck is put on the stretch and thoroughly exposed, and with one sawing stroke of a formidable, but splendidly sharpened, knife the whole of the organs at the inferior part of the neck are severed.

Now, I do not for a moment assert that the operation of cutting the throat is any more cruel than other methods of slaughter, but I do assert that the fixing of the head in the way I have described is cruel. In one part of your article it is stated that "the severance of the windpipe has the effect of depriving the animal of sensibility."

The mere severance of the windpipe would produce no such effect, so long as the lower end of that organ is kept open so as to admit air into the lungs; but in the Jewish operation not only are the large vessels severed, but the pneumo gastric and sympathetic nerves also, with the result that the functions of the lungs and heart are immediately arrested. In other parts of the article we read, firstly—"That pole-axing . . . . . is a longer and less refined process;" and secondly, that Professor Thiermesse has asserted that "there can be no crueller method of slaughter than this."

The process of slaughter by means of the pole-axe is, if properly performed, *absolutely momentary and painless*, and I fail to see how such a statement as that it is longer and less refined than is the Jewish "Shechita," when all the preliminaries and the ugly (yet surgically beautiful) gash in the throat are taken into consideration. In reference to strangulation I have nothing to say, as I imagine none but the most brutal or most ignorant of human beings would practise such a method for the purpose of destroying the life of any animal,—THOMAS WALLEY.

"Kosher" Meat Prosecution in Aberdeen.

The Rev. James Littman and Alexander Zamek, of the Aberdeen Jewish Synagogue, were charged at the Aberdeen Police-court to-day with a contravention of the Act for the Prevention of Cruelty to Animals, in that, in connection with the observance of Jewish rites, they unskilfully slaughtered a bullock. On the application of a solicitor for the defence, the hearing of the case was adjourned till Friday week.

ACORN POISONING.

The following circular has been issued:—

"The attention of the Board of Agriculture has been called to the unusual abundance of the crop of acorns this season, and it is considered desirable to warn stock-owners who are accustomed to turn cattle into parks, on to commons, or other places where acorns are plentiful, that there is considerable risk of injurious effects arising from the consumption of large quantities of acorns, which in the present dearth of herbage, owing to the long drought, are certain to be eaten with avidity.

"In the years 1868, 1870, and 1884, which were remarkable for a large yield of acorns after a long dry and hot summer, serious losses among young cattle occurred from outbreaks of what is known as the acorn disease, or acorn poisoning. In many districts, notably in Middlesex, Kent, Hertfordshire, Warwickshire, Lincolnshire, Northamptonshire, Wiltshire, Gloucestershire, Devonshire, the New Forest, Sussex, Surrey, Suffolk, Norfolk, and Derbyshire, extensive outbreaks of the disease have occurred. Young cattle up to two years old suffered most severely. Milch cows and cattle over three years old were seldom affected. Sheep and pigs appeared to be unsusceptible to the poisonous action of the seeds, and only two or three cases of the disease were reported in these animals, while entire herds of young cattle were attacked, and a large proportion of them succumbed.

"Acorn poisoning is quite distinct from indigestion due to eating an excessive quantity of acorns. This accidental disorder may occur in ordinary seasons when animals are first allowed access to pasture where acorns abound. But the true acorn disease is distinguished by progressive wasting, entire loss of appetite, diarrhœa,

discharge of an excessive quantity of pale urine, sore places inside the mouth, discharge from the nostrils and also from the eyes, which are always sunken, giving to the animal a peculiar haggard expression. No fever is present from first to last, but, on the contrary, the temperature is commonly below the normal standard.

"On post-mortem examination it is frequently noticed that all traces of the acorns have disappeared. The morbid changes are such as are seen when an irritant poison has been given.

"Remedies of various kinds were tried in the great outbreaks of the disease, but no cure was discovered. Prevention is comparatively easy when the risk is realised. It is only necessary for absolute security to keep cattle from the pastures while acorns are falling. The danger will be materially lessened by collecting the acorns from the pastures, but this device does not prevent a considerable consumption of the nuts which fall during the night. It has also been suggested that when cattle are only allowed access to acorns during the daytime they should be supplied with a liberal allowance of food before they are turned out. It cannot be affirmed that these plans have always proved successful in practice."

TUBERCULOSIS OF THE ABDOMEN IN CHILDREN.

By Frederick Taylor, M.D. F.R.C.P., Physician to Guy's Hospital.

(Abstracted from report of proceedings of British Medical Association, Section of Diseases of Children. *The Lancet*, Sept. 30.)

I propose to confine myself to the consideration of those forms and those localities of tuberculous disease which are by far the most frequent in children, and which generally occur at once to the mind when the phrase "tuberculous disease of the abdomen," or the popular expression "consumption of the bowels" is made use of. Those forms are (1) disease of the alimentary mucous membrane, commonly known as tuberculous ulceration of the intestine; (2) disease of the serous membrane or peritonitis, commonly known as tuberculous peritonitis; and (3) disease of the mesenteric glands, known at least in its more pronounced forms as tabes mesenterica.

Tuberculosis of the Stomach.

As is well known, the alimentary canal is not in all its parts equally open to the invasion of the tubercle bacillus, and the stomach and œsophagus are quite rarely the seat of this disease, while the intestines in large numbers of cases in both children and adults present extensive ulceration of their mucous membrane. It is practically certain that the mucous membrane is in most cases invaded by the ingestion of tuberculous materials, either in phthisical sputa when they are swallowed, or possibly in the milk from diseased cows. The difference above referred to has been explained by the facts that the ingesta pass too rapidly through the œsophagus to allow of its mucous membrane being successfully attacked, and that the acid contents of the stomach are prejudicial to the life of the bacilli. Nevertheless, in exceptional cases tuberculous disease has been discovered in the stomach.

While noting the possibility of a tuberculous lesion occurring in the stomach, it is clear that it is a rare lesion, and I do not think that it is very likely to be accompanied by symptoms in a child, as it is probable that when it does occur it is mostly a part of a general tuberculosis affecting the alimentary canal as well as other parts.

Tuberculosis of the Intestines.

A consideration of a number of cases of tuberculous ulceration of the intestine shows that the ulceration may be present in every part of the intestinal canal from the duodenum to the rectum, though probably the ileum and the cæcum are more often invaded by tubercle, as they are by enteric fever. But remarkably large ulcerations may take place in the rectum, and only a few weeks ago I saw in the post-mortem room of Guy's Hospital a large circular ulcer, having a diameter at least as large as that of a half-crown piece.

The pathological associations of tuberculous ulceration of the bowel are numerous, and occur in children with greater uniformity or equality. Thus tuberculous ulceration may be associated with tuberculous peritonitis, with caseation of the mesenteric glands, with general tuberculosis, with a purely local tuberculosis of the lungs, or ordinary phthisis. In this last case it is often secondary to pulmonary lesion, produced no doubt in the way so common in adults, namely, by the patient swallowing the sputa.

Wesener found than an injection of tuberculous sputa into the stomach failed to produce ulceration of the bowel, but the mesenteric glands were infected. Necessarily therefore the gastric secretion spared something. On the other hand, injection of the sputa directly into the bowel caused intense tuberculosis of the gut. Wesener explains the facts by supposing that the gastric juice kills the bacilli, but leaves the spores unharmed. And he further states that the action of the gastric juice is paralysed by alkalies and by milk, of which the curds surround the bacilli and thus convey them safe through the bowel. That in ordinary cases of phthisis the intestine suffers so much is, he says, due to the catarrhal condition of the stomach interfering with the protective operation of the gastric juice. The view that the normal gastric juice destroys the bacilli but spares the spores is combated by Fischer; and indeed it may be asked if the intestine is unprotected because the gastric juice is rendered inoperative upon the bacilli by mucus, why the stomach itself remains exempt in all but the very rarest of cases. It cannot surely be said that no phthisical patient gets ulceration of the bowel till he takes to a milk diet.

Conveyance of Tubercle by the Ingestion of Milk or Flesh.

The question of the infection of cow's milk with tuberculous virus has been entertained and discussed ever since the close resemblance of so-called "bovine tuberculosis" to human tuberculosis has been recognised. Infants and young children over a great part of the world are largely fed upon cow's milk, either directly from birth or after the termination of nursing by the mother. Primary abdominal tuberculosis, affecting either the mucous membrane, the glands, or the peritoneum, is undoubtedly very common in children.

Animals have been fed with milk, directly impregnated with tubercle bacilli with varying results, some being infected, others escaping. Animals have been fed with the milk of tuberculous cows, also with varying results. The milk of tuberculous cows has not always been found to contain bacilli, and, therefore, it is conceivable that it should not always be, if sometimes it is, infectious. It is reasonable to suppose that milk infection is more likely to take place when there is tuberculous disease of the udder of the cow than when the tubercles only affect the internal organs, and the opinion has been expressed that it is only in the former case that the milk is infected. The subject does not receive much enlightenment from

the cases of tuberculous women nursing their children. A woman decidedly ill with phthisis mostly has a poor milk supply, yet I daresay there are quite enough phthisical mothers nursing their children to help in this inquiry if there were no other considerations to hamper the question. Actual tuberculous disease of the human breast is probably too rare to afford much information, and no doubt in most recorded cases the hygienic bearings of the case in reference to sucking infants, if such a contingency has existed, will not have been particularly considered. Moreover, in any case where an infant nursed by a tuberculous mother has become itself tuberculous, the possibility of direct infection by the breath, by the atmosphere of the room, and the influence of hereditary disposition would have to be put out of court before the infection by the breast milk could be definitely accepted.

The question of tuberculous flesh or the flesh of tuberculous cows presents some differences so far as we are concerned; for first, the ingestion of flesh as food is not confined to children, as that of milk very largely is; secondly, in a well-regulated community it ought to be very easy to reduce the consumption of such meat to a minimum by proper sanitary laws; and, thirdly, the conveyance of tubercle in this way in much less probable than is its conveyance by milk. If it were at all common we surely ought to see a great deal more of primary abdominal tuberculosis in adults than we do.

(To be continued.)

ROYAL VETERINARY COLLEGE.

Prize Distribution and Inaugural Address.

On Wednesday the annual distribution of prizes in connection with the Royal Veterinary College and the delivery of the inangural sessional address took place in the theatre of the institution in Great College Street, Camden Town.

The chair was taken by Mr. J. Astley Bloxam, one of the governors, the address inaugurating the winter session being delivered by Professor Brown, C.B., the principal of the College.

Amongst those present were Professor Simonds (late Principal of the College); Professor Crookshank, Sir Henry Simpson, Vet.-Major Matthews, Vet.-Captain Raymond, Vet.-Captain Blenkinsop, Prof. Axe (late Professor), Professors Power, Shave, Macqueen, Bayne, Penberthy, and Pritchard, Professor M'Fadyean (Dean of the College), and Mr. Richard N. Powys, the secretary.

The Chairman, in opening the proceedings, said they had met for the purpose of inaugurating the winter session, and without further preface he called upon the Principal of the College to deliver his address.

Professor Brown, who was received with cheers, then delivered the inaugural address. Looking, he said, at the audience assembled before him, he recognised a record of the past and present veterinary science and suggestions for its future. He recognised also men who had grown grey in the service of the profession. There were those who were skilled in the midst of the battle of life, and there were some who were about to enter the ranks, and in recording the prospects he asked himself how he was to address them. After reviewing the great progress which had been made in veterinary science during the past 40 years, and commenting upon the vast improvements which had during that period taken place in that institution by the improved system of teaching, and the addition of numerous laboratories for the prosecution of their work, he remarked that one result of the improved teaching and the advance of veterinary science had been the equalisation of qualification in their profession. They were no longer called upon to bend to one or two lights in the firmament, but they could now select a phalanx of earnest and competent men whose motto was "Work and learn." To those aspirants of veterinary honours, he reminded them that they would not only find work to do at the College but subjects of thought. They began their studies by an introduction to the mysteries of life and death. They were introduced at once to the world of living things—animals and plants— and they inquired, because they could not help doing so, into the origin of life which was presented to them in its initial stage, simple in its organism, and strangely combined was that simplicity of organism with the perfection of function and power of reparation which far exceded that which belonged to this complicated phenomenon. He hoped that the professor who addressed them 40 years hence would be able to point out that the advance in veterinary science during the next 40 years was incomparably more important and complete than that which had taken place in the last 40 years. (Applause).

In proposing a vote of thanks to Professor Brown for his interesting address, the Chairman dwelt upon the advantage it was to the College that such a strong feeling of *esprit de corps* existed, and assured the students that it was the desire of the Governors to make the College second to none in the kingdom. (Cheers.) In no profession at this moment was work so thoroughly done as by the veterinary surgeon, and he believed he would become the most useful and valued friend of man in the country. (Cheers). He impressed upon the students the desirability of devoting much careful thought to the study of materia medica and hygiene—two subjects of the greatest importance to the profession. He concluded by referring with much regret to the retirement of Professor Axe, who had been connected with the College for the past 25 years, and spoke of the high appreciation the Governors entertained of his long and valuable services. (Applause).

The vote was carried with acclamation.

Professor Axe, who was warmly received, thanked the chairman for his kind expression of feeling, and wished the College every possible success in the future.

The prizes having been distributed, a vote of thanks to the chairman closed the proceedings.—*Evening Standard.*

Bombay Veterinary College.

The results of the examinations at the Bombay Veterinary College during 1892-93 appear to have given the Educational Department anything but satisfaction. Of the thirty-eight students of mixed nationalities, Hindoo, Parsee, Mahomedan, Buddhist, Jew, "Portuguese" and European, only eighteen passed the examinations, and to only seven of these were diplomas granted. The Director of Public Instruction appears to attribute this discouraging result of the year's labours to changes in the College staff as well as to the high number of marks required for the examination in Medicine and Surgery; but the students themselves can hardly, we are inclined to think, be held free from responsibility for this large proportion of failures. The Examination Board has been impelled by this decline to make an alteration in the College rules so as to equalize the number of marks required for a pass in each subject, but if this means that the standard of the more difficult and more important subjects is to be lowered, we fear that the Board will be making a serious mistake. The standards are none too high as it is, and it would be the height of unwisdom to lower them for no better reason than that twenty students out of thirty-eight are unable to reach them.—*Times of India.*

Marriage at Windsor.

There was a pretty double wedding in Windsor on Wednesday, September 20th, when the two daughters of Sir Henry Simpson (who was Mayor of Windsor during the Queen's Jubilee) were married at the parish church: Miss Isabel Mary Simpson to Mr. Alfred Aston Stevens, of Durham, and Miss Louise Simpson to Mr. Philip Edward Headington, of the Manor Farm, Old Windsor. The old parish church was literally crammed with spectators, so that a way had to be cleared for the bridal procession, when the elder sister walked up on the arm of her father, followed by her sister, and the bridegroom's sister.

After that came the second bride, leaning on the arm of her uncle, Mr. J. F. Simpson, ex-Mayor of Maidenhead, and followed by her three bridesmaids. It was really an extremely pretty sight, both brides are fine-looking girls, and appeared to great advantage in their becoming bridal robes; Sir Henry being himself a tall good-looking man, and his brother strongly resembling him. The service was fully choral.

After the ceremony, there was a grand breakfast at the Town Hall, over which Lady Simpson presided. About five o'clock the happy couples departed for Scotland.—*Modern Society.*

CORRESPONDENCE

MILK FEVER.

SIR,

I have read with very much interest the correspondence on the above subject, especially that part of it which touches on colostrum, I have to express my agreement to some extent with the views put forth by Mr. Thompson; at the same time I must refrain from attempting to give the why and the wherefore, and confine myself to a few practical facts thereon. In July, 1884, I read a paper before the Yorkshire Veterinary Medical Society part of which touched on this very question "that the colostrum played a very important function on the toning of the secreting cells of the udder." I may say that I still maintain the same belief, although I do not see it from the same standpoint as Mr. Thompson. We know that milk fever is rarely, if ever, met with in the heifer, also that the heifer retains evidence of colostrum longer than at any other time of her prolific career, and why? because she gives a much less quantity of milk. The same manifestations apply to small milkers, but when she comes to her third or fourth calf instead of giving three or four quarts we have now from eight to ten. When such is the case colostrum is seldom to be traced after the third or fourth milking, consequently the opinion I have held all these years is that the colostrum in deep milkers is too suddenly washed out, resulting in the loss of function, through I believe insulating the secreting cells, followed with sudden disappearance of the toning (hyperæmia) which is the first apparent symptom of comatose milk fever—hence the flabby udder so characteristic of this disease. I could find ample evidence in every case I have treated of milking the cow dry one or two hours before the first symptoms were manifested, in short, I have never known a cow go down with a full udder. More than once I have had a case thrown the second time through the owner persisting in milking dry too soon, in the belief if he did not do so she would never come to her full milk, and the second attack worse than the first. This fact was conclusive evidence to me as to the cause of milk fever and how to treat it. I find that three days in dangerous cows is not sufficient time either for the calf to be put to the mother or to follow nature's example. Mr. Thompson has not told us whether the milk that baked when taken on the fourth day was drawn from a deep milker. I am at one with him when he says that cases of milk fever (comatose) should be recorded when the full functions of the udder are undisturbed.

PARLANE WALKER.

Halifax, October 4th, 1893.

Sir,

In Mr. Thompson's last long letter upon this subject, the last paragraph, Mr. Thompson asks Mr. McConnell and me, while "faulting" his theory to substitute a better. This I think Mr. McConnell has already done, and if Mr. Thompson will turn to a February number of *The Veterinary Record* for this year, he will find my theory briefly described. Naturally I think it more rational than his. ROBERT BARRON, M.R.C.V.S.

THE TERM FARRIER.

Mr. Jas. Blakeway writes: "I should not trouble you again, but in my last letter the words 'Veterinary Journal,' should have been 'Veterinary Record.' As it was written in a hurry, this may have been my mistake."

[The words were printed as written.—ED.]

"TITLES."

SIR,

I send you a portion of a memorandum form in the hope that you will publish it and your translation of the cabalistic letters which follow the worthy inspector's name. It appears that the use of the term veterinary surgeon is not sufficient for some of the persons who have been admitted to the Register, they must have letters—much virtue in letters—especially if no one knows what they stand for.—Yours,

X.

FROM

CHARLES PORTER, M.R.V.P.
VETERINARY SURGEON,
EGREMONT STREET,
ELY, CAMBS.

Veterinary Inspector for the Isle of Ely County Council.

[Registered Veterinary Practitioner we understand, but what M.R.V.P. means we do not know.—ED.]

CONTRACTED TENDONS.

Mr. J. Roalfe Cox asks us to call attention to a misprint in his article of last week. Page 187, second column, about halfway down, for "habitual *disease*," read "habitual disuse."

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. J. Woodroffe Hill, J. Roalfe Cox, J. Brown (Invergordon), P. M. Walker, J. Blakeway, R. Barron, "X."

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.